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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/361,671 | 07/27/1999 | GAIL A. ALVERSON | 324758003US1 | 5810 |

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| EXAMINER |
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BANANKHAH, MAJID A

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| ART UNIT | PAPER NUMBER |
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2127

DATE MAILED: 05/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,671

Applicant(s)

ALVERSON ET AL.

Examiner

Majid A Banankhah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-42 and 57-106 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-42 and 57-106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5 and 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. This office action is in response to application filed on July 27, 1999. Claims 38-42, 57-106 are considered for examination.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 74-81, and 100-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Per claim 74, in the second step the “synchronization access mode of the pointer” effect “**a desired behavior** of accessing the buffer”, but later in the third step, reference is made to the “**the behavior** of the accessing code”. It is unclear whether the behavior of accessing the buffer is the same as the behavior of the accessing code.

Additionally, the negative limitation of the 3rd paragraph is indefinite. Examiner’s interpretation of the last step is that, behavior of the accessing code is changed by the mode of the synchronization and changes with the change of the synchronization mode. The cause of the other changes happening to the behavior of the code is unclear, because no step is recited as to that cause.

Claims 75-81 are rejected as because of the rejection of their parent Claim.

Per claim 100, the last paragraph recites “means for accessing the data of the buffer using the pointing means wherein the accessing behavior of the pointing means” which seems to be incomplete. Examiners interpretation of this limitation is “accessing data of the buffer using a pointer”.

Claims 101-106 are rejected for the rejection of their parent claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 38-42, and 57-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al (U.S.Pat. No. 6,161,160) in view of Ray et al. (U.S.Pat. No. 5,974,483).

Per claim 38, a method in a computer system for accessing a buffer of data (patent of Niu et al. 6,161,160) comprising:

defining a write pointer to point to a location within the buffer (write pointer, Abstract, and Fig. 4, 84a);

when adding data to the buffer, fetching the write pointer (incrementing write pointer and writing data, col. 8, lines 64 to col. 9, line 26, additionally, there is no need for a write pointer if there is no fetching into the buffer when writing);

and storing the data into the buffer starting at a location indicated by the fetched write pointer (the write pointer by definition shows the starting location of the write data); and setting the synchronization access mode of the write pointer to be either normal or sync to effect the behavior of adding data to the buffer (full flag, and status indicator flag, col. 12, line 63 to col. 13, line 24).

The reference of Niu fails to specifically teach of "adding an indication of a size of the data to the write pointer", however, writing the size of the data to the write pointer is well known in the art as it is evidenced by Ray et al. The reference of Ray teaches of the

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limitation in write pointer indicating that more than n data elements are buffered for an individual data consumer, teaching of indication of the size of the data, for the purpose of assigning buffer size for certain data size. Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to use write pointer of Ray that include data size to the pointer for assignment of buffer. One ordinary skill in the art would be motivated to add data size and other information regarding data to the write pointer in order to increase efficiency.

Per claim 57, the claim is rejected for the reasons stated in the rejection of claim 38, and the limitation of effecting the desired synchronization behavior of the accessing data is taught by Niu, where he teaches of synchronization flag status and read pointer (col. 12, line 63 to col. 13, line 24, read pointer in response to storing data and indicator flag)

Per claim 74, **While claim 74-81 were rejected under 35 USC 112, Second paragraph** as stated above, in order to advance prosecution, claims will be treated on the merits in view of examiner's best understanding of the disclosure and the prior art.

The claim is rejected for the reasons stated in the rejection claim 38 and 57, and the limitation of:

“under control of accessing code, reading from a location within the buffer using the pointer wherein the behavior of the accessing code depends on the setting of the synchronization access mode of the pointer and can be changed without modifying the accessing code”, is taught by Niu in col. 12, line 63 to col. 13, line 24, read pointer in response to storing data and indicator flag (the status changes from empty to full and access mode changes from write to read).

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Per claim 82, the claim is rejected for the reasons stated in the rejection of claim 74 and the limitation of writing to a location (as opposed to reading from a location), Niu teaches of the status change of the flags (empty flag to full flag and full flag to empty) in col. 13, lines 25-44).

Per claim 90, the claim is rejected for the same reason as stated in the rejection of claim 38 and the limitation of Read and Write Pointers is taught by Niu in Fig. 4, 22a, and 22b.

Per claim 100, **While claim 100-106 were rejected under 35 USC 112, Second paragraph** as stated above, in order to advance prosecution, claims will be treated on the merits in view of examiner's best understanding of the disclosure and the prior art.

the claim is rejected for the reasons stated in the rejection of claim 38 synchronization access mode is full flag and empty flag, the pointing means are read pointer and write pointer.

Per claims 39, the claim is rejected for the reasons stated in the rejection of claim 38 and the limitation of "wherein the fetching and adding includes executing a fetch and add operation" is taught by Niu in Fig. 6, 104, and descriptors content and FRM in Memory.

Per claims 40-41, and 84 the claims are rejected for the reasons stated in the rejection of claim 38 and the limitation of "wherein when the synchronization access mode of the write pointer is set to normal, the storing includes overwriting data previously stored in the buffer and not yet read" is well known in the art. When the stored data is not read after predetermined period of time (waiting period) the data wither is deleted or overwritten, for the purpose of reclaiming the memory and increasing efficiency of the memory use.

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Per claim 42, the claim is rejected for the reasons stated in the rejection of claim 38 and the limitation of “wherein the setting of the synchronization access mode of the write pointer is transparent to the adding of the data to the buffer” is taught by Niu in col. 6, lines 53 to col. 7, line 3 (automatically turn on the host in response to data packet).

Per claims 58-59, 75, 76, 83, 91, 92, and 103, the claim is rejected for the reasons stated in the rejection of claim 57 and the limitation of wherein the setting of the synchronization access mode is changed to change the desired behavior of accessing the data is taught by Niu in col. 12, line 46 to col. 13, lines 1-24 (read and write mode according to the status of the flag).

Per claim 60-61, 77-78, 86, 93, and 104 the claim is rejected for the reasons stated in the rejection of claim 57, and “wherein when the synchronization access mode is set to sync, read access to the location within the data is permitted only when the location is full” is taught by Niu in col. 13, lines 24-44.

Per claim 62-63, 85, 94, and 105 the claim is rejected for the reasons stated in the rejection of claim 57, and “wherein when the synchronization access mode is set to sync, read access to the location within the data is permitted only when the location is full” is taught by Niu in col. 13, lines 24-44.

Per claims 64, and 106, wherein the behavior of the accessing code is modified without modifying the accessing code, is taught by Niu. The system of Niu the accessing code is not modified, because it is the flag, which causes the mode to change.

Per claim 65-66, 79-80, 87, and 96-97, the claims are rejected for the reasons stated in the rejection of claim 57 and the limitation of access is directed to the pointed to location at

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the other end of the data is taught by Niu in col. 14, lines 5-18 (descriptor index information).

Per claims 67-69, 98, and 101-102, the claim are rejected for the reasons stated in the rejection of claim 57 and the limitation of data is accessed by multiple readers and writers is taught by Niu in col. 1, lines 39-36 (network media with multiple readers and writers.

Per claims 70, 81, 88, 89, and 99, the claim is rejected for the reasons stated in the rejection of claim 57, furthermore, it is well known in the art to raise an exception when access to a memory block is blocked, for the reason to stop more accessing until the memory is released, and does not allowing accessing of the thread which has caused the exception until the thread being executed completed its accessing for the reason to prevent bottleneck.

Per claims 71, and 95, it is well known in the art that when access by the thread to the location is blocked, saving a state of the thread and storing a reference to the thread in the location in order to be able to allow the blocked thread to access the location and be able to restore the thread.

Per claims 72-73, it is well known that any pointer is a data structure having descriptor information about the specific of the blocked thread and/or location of the memory with descriptor index information as it is taught by Niu in col. 14, lines 5-18.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Majid A. Banankhah** whose voice telephone number is (703) 308-6903. A voice mail service is also available at this number.

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All response sent to U.S. Mail should be mailed to:
Commissioner of Patent and Trademarks
Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA, Six Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses to the Examiner.

All Formal or Official Faxes must be signed and sent to either (703) 308-9051 or (703) 308-9052. Official faxes will be handled and entered by the docketing personnel. The date of entry will correspond to the actual FAX reception date unless that date is a Saturday, Sunday, or a Federal Holiday within the District of Columbia, in which case the official date of receipt will be the next business day. The application file will be promptly forwarded to the Examiner unless the application file must be sent to another area of the office, e.g., Finance Division for fee charging, etc.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(703) 305-9600**.

Majid Banankhah

4/18/04

MAJID BANANKHAH
(PRIMARY EXAMINER)